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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,340	06/25/2003	Nithyalakshmi Sampathkumar	MSFT-1732 (303414.1)	3992

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EXAMINER

LUDWIG, MATTHEW J

ART UNIT	PAPER NUMBER
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2178

DATE MAILED: 12/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/606,340	Applicant(s) SAMPATHKUMAR ET AL.	
	Examiner Matthew J. Ludwig	Art Unit 2178	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/19/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the application filed 6/25/03.
2. Claims 1-22 are pending in the application. Claims 1, 7, and 21, are independent claims.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 1, 4, and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

In reference to independent claim 1, the claim recites the phrase “and type information”. There is insufficient antecedent basis for this limitation in the claim and it is unclear to the Examiner what ‘type’ information is referring to. Appropriate correction is required.

In reference to dependent claim 4, the claim recites the phrase, “inference engine is adaptable and customizable”. The language leaves the claim open ended and the examiner is left with insufficient language to show how the XSD inference engine is adaptable or customizable or what is meant by adaptable and customizable. Appropriate correction is required.

In reference to independent claim 7, the claim recites the phrase “and type information”. There is insufficient antecedent basis for this limitation in the claim and it is unclear to the Examiner what ‘type’ information is referring to. Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Evangelos Kotsakis, 'XSD: A Hierarchical Access Method for Indexing XML Schemata', Copyright 2002, pages 4: 168-201.**

In reference to independent claim 1, Kotsakis teaches:

A DCS matches a parameterized path expression if there is at least one simple path in the DCS which matches the parameterized path expression. If a matching path is returned by algorithm, then the parameterized path expression is matched against the DCS (compare to 'XML document having attribute and type information'). See page 180, Definition 3.6 through 3.9.

A merger DCS depicts a generic XML schema which combines two or more simpler DCSs. The introduction of the concept of merger DCS aims at limiting the initial search space by merging primitive DCSs into more general ones, which may then be used as matching targets against XML queries (compare to "an XSD inference engine, the XSD inference engine accepting the XML document as input to process the XML document to infer an XML schema definition"). See page 182, DCS Basic Operations.

The reference does not explicitly state the utilization of an inference engine, however, Kotsakis discloses a method of organizing semi-structured schemata in a hierarchical way and it

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may be viewed as a meta-schema organization (infer an XML schema). The XSD approach is based on clustering XML schemata rather than on classifying semi-structured sources such as XML documents. It would have been obvious to one of ordinary skill in the art, having the meta-schema organization methods of Kotsakis to provide an author with the ability to aggregate similar XML schemata into a merger schema allowing faster query processing.

In reference to dependent claim 2, Kotsakis teaches:

Figure 4(a) shows a merger DCS, which is obtained by merging the DCSs in Fig. 4(b) and (c). The merger DCS contains the union of the elements in the simpler DCSs. A merger DCS may be viewed as a bounding structure that unifies simpler DCSs. See Kotsakis, page 175.

In reference to dependent claim 3, Kotsakis teaches:

Algorithm 3.1 shows how to find whether a DCS tree matches a parameterized path expression. If a matching path is returned by Algorithm 3.1, then the parameterized path expression is matched against the DCS.

In reference to dependent claim 4, Kotsakis teaches:

In a filter-and-refine XML query execution, the XSD access method restricts the search to a subset of XML documents, which is usually a subspace of the entire corpus. See Kotsakis, page 199.

In reference to dependent claim 5, Kotsakis teaches:

A merger DCS depicts a generic XML schema which combines two or more simpler DCSs. The introduction of the concept of merger DCS aims at limiting the initial search space by merging primitive DCSs into more general ones, which may then be used as matching targets against XML queries (compare to “an XSD inference engine, the XSD inference engine

accepting the XML document as input to process the XML document to infer an XML schema definition"). See page 182, DCS Basic Operations.

In reference to dependent claim 6, Kotsakis teaches:

In a filter-and-refine XML query execution, the XSD access method restricts the search to a subset of XML documents, which is usually a subspace of the entire corpus. See Kotsakis, page 199.

In reference to claims 7-18, the claims recite similar limitations for performing the schema inference methods found in claims 1-6. Therefore, the claims are rejected along the same rationale.

In reference to claims 19-22, the claims recite the system comprising computer readable instructions used for performing the methods as claimed in 1-6. Therefore, the following claims are rejected along the same rationale.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Britton et al., USPN 6,856,992 filed (10/29/2001)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Ludwig whose telephone number is 571-272-4127.

The examiner can normally be reached on 9:00am-6:00pm.

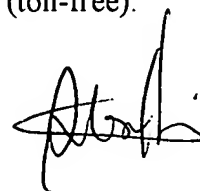
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hong can be reached on 571-272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ML

November 28, 2005



STEPHEN HONG
SUPERVISORY PATENT EXAMINER